REMARKS

Favorable reconsideration in view of the following remarks is respectfully requested. By this communication, claims 1, 7, 8, 15, 21, 25, 36, 37 and 38 are amended. Claims 2 and 40 are cancelled and claims 42-45 are added.

Drawings:

The Examiner requests that the "protective rim" and the "elongate members" be shown in the drawings. For the "protective rim", the examiner's attention is directed to element 32 in Figure 2 and lines 18-22 of page 15. For the "elongate members", the Examiner's attention is directed to element 36 in Figure 3, and lines 2-7 of page 16. Accordingly, Applicant submits that the drawings do not need amendment.

Claim Rejections - 35 U.S.C. §103:

Claims 1-2, 7-8, 12, 15, 24, 26, 33-37, are rejected under 35 U.S.C. §103(a) as being unpatentable over *Nakamura* (U.S. Patent No. 4,410,768) in view of *Guenther et al.* (U.S. Patent No. 6,097,829) and *Morrisey* (U.S. Patent No. 3,841,197). Applicant respectfully traverses this rejection.

Morrisey discloses a cluster of rocket launcher tubes enclosed in a urethane foam and wrapped in a reinforcing, outer skin cover composed of glass, graphite or other high modulus fibers covered with epoxy, polyester or other suitable resin. The fibers are applied by filament winding in alternate hoop (or circumferential) and helical winding patterns as shown in Fig. 4 thereof. The fibers form a continuous outer skin oriented around and throughout the entire length of the urethane foam. As shown in Fig. 4, the outside circumference of the urethane foam is completely covered by the filament winding.

The winding of claim 1differs from the winding taught by *Morrisey*. The winding of claim 1 is tangential and not hoop (circumferential) or helical. Importantly, the winding used claim 1 leaves spaces between adjacent turns rather abutting adjacent turns so as to form a continuous skin as *Morrisey* teaches. If the winding of *Morrisey* had spaces between turns, then it would create regions of weakness which would negate its intended purpose of strengthening the rocket launcher structure.

In contrast, the winding of claim 1 leaves areas of the underlying foam free to act as sound-radiating surfaces.

The winding of claim 1 is not applied so as merely to provide general strength to the outside of a structure under high stress, but rather to provide a high degree of stiffness along a single axis while at the same time balancing conflicting parameters of mass and stiffness to optimize acoustic performance. High stiffness is desirable in order to obtain good performance at higher frequencies. However, attempting to make a loudspeaker diaphragm stiffer by merely making it more massive results in the loudspeaker being relatively insensitive in terms of the electrical input required for a given sound output. There is thus a difficult balance to achieve between stiffness and mass and *Morrisey* teaches nothing relevant to that end.

Guenther discloses a loudspeaker diaphragm consisting of a honeycomb core sandwiched between first and second carbon skins. *Guenther* makes reference at column 10, lines 36 to 41, to the application of sandwich structures used in the aircraft and aerospace industries to *flat-panel* diaphragms of loudspeaker systems. As *Morrisey* does not teach a sandwich structure, it is not possible to say that *Guenther* provides an indication to apply the structure of *Morrisey* to the diaphragm of *Guenther*.

If, in spite of that, one were to attempt to apply the teaching of *Morrisey* to *Guenther*, the result would be to provide a continuous outer skin and not a structure with spaces between adjacent turns as in claim 1. It is also, in any case, unclear as to how the winding of *Morrisey* could be applied to the diaphragm of *Guenther*.

Morrisey teaches winding around an outer convex surface and the outer convex surface of the diaphragm of *Guenther* is so shallow as to make such winding difficult. One solution might be to make the diaphragm of *Guenther* deeper in order to facilitate the application of a winding according to *Morrisey*. In any case, the consideration is moot because claim 1 recites a diaphragm having frusto-conical front and rear faces in contrast with the disc-shaped diaphragm of *Guenther*. Claim 1 is moreover further distinguished by the use of the tangential winding and the leaving of spaces between adjacent turns of the winding.

Nakamura discloses a loudspeaker diaphragm consisting of a foamed resin containing reinforcing fibers. Since *Nakamura* already provides reinforcing fibers, there is no good reason for providing extra ones, particularly, as that would change the mass of the diaphragm and upset the important balance of mass to stiffness. Moreover, the remarks above about the impracticality of applying the teaching of *Morrisey* apply also to *Nakamura*. *Nakamura* also shows cone (Fig. 2) and dome (Fig. 3) diaphragms but it hardly seems possible that *Morrisey's* outer winding could be applied to those.

Again, consideration is moot because claim 1 recites a diaphragm having frusto-conical front and rear faces in contrast with the disc-shaped, cone (Fig. 2) and dome (Fig. 3 diaphragms of *Nakamura*). Claim 1 is moreover distinguished by the

use of tangential winding and the leaving of spaces between adjacent turns of the winding.

Claim 38 is patentable for reasons similar to claim 1.

Claim 33 recites a diaphragm for a loudspeaker drive unit, wherein the diaphragm comprises a block of rigid plastic foam material containing one or more internal voids. The block has a first, sound-radiating front face and a second, rear face, and a multiplicity of turns of one or more elongate members of flexible material stiffened by a stiffening composition bound about over the first and second faces so as to stiffen the block. Among other things, the applied prior art does not teach or suggest a diaphragm having the block defined in claim 33 that is stiffened by a multiplicity of turns of one or more elongate members of flexible material stiffened by a stiffening composition bound about over the first and second faces. Accordingly, claim 33 is also patentable over the applied prior art.

The dependent claims are patentable at least for the reasons set forth above with regard to the independent claims.

In view of the foregoing remarks, the Examiner is respectfully urged to reconsider and withdraw the outstanding rejections.

In the event there are any questions concerning this response, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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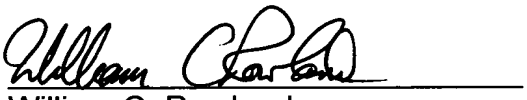
By: 
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